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Publication number: **0 523 706 A1**

(12)

## EUROPEAN PATENT APPLICATION

(21) Application number: **92112182.8**

(51) Int. Cl.<sup>5</sup>: **B65D 88/16**

(22) Date of filing: **16.07.92**

(30) Priority: **18.07.91 TR 618/91**

(43) Date of publication of application:  
**20.01.93 Bulletin 93/03**

(84) Designated Contracting States:  
**AT BE CH DE DK ES FR GR IT LI NL PT SE**

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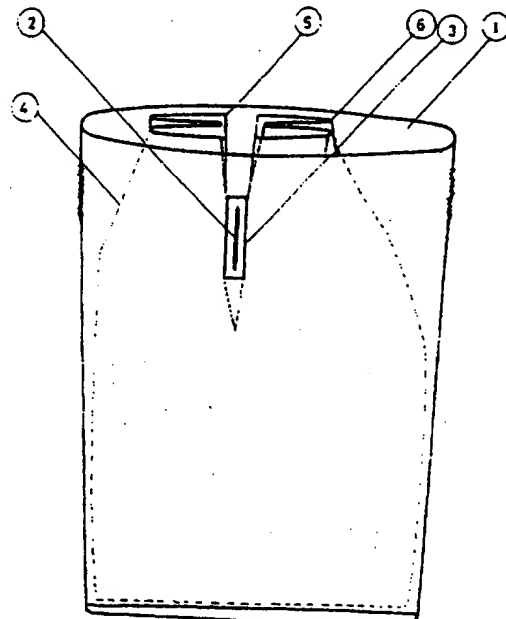
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(54) An improved outer protection bag used for the handling, storing and transporting of bulk materials.

(57) This invention is related to a protection bag made of polyethylene, laminated polypropylene woven material or any other suitable material for the protection of the bags inserted inside thereof used for the handling, storing and transporting of bulk materials against various environment conditions wherein the opening of the protection bag is extended to one side and a slit is provided on the bag through which a lifting hook or any other handling means may be inserted.



**FIG. 2**

**EP 0 523 706 A1**

EP 000523706 A  
JAN 1993

93-019741/03 A92 DEBA- 91.07.18  
DEBANT PLASTIK SANAYI ANONIM SIRKETI \*EP 523706-A1  
91.07.18 91TR-000618 (93.01.20) B65D 88/16  
**Protective outer bag for bulk solids bag - has upper slit for insertion of lifting hook (Eng)**  
C93-008926 R(AT BE CH DE DK ES FR GR IT LI NL PT SE)  
Addnl. Data: ERDOGAN R  
92.07.16 92EP-112182

A protective outer bag (1) of polyethylene or laminated polypropylene woven material into which a bag holding bulk granules or powder can be inserted had its opening extended to one side and a slit (2) in the bag close to the opening through which a lifting hook or other handling device can be inserted.

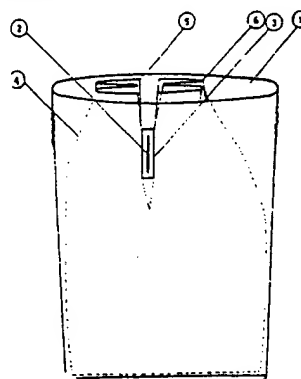
The slit is pref. cut after both sides of the bag are folded into one another and the area (3) around the slit is sealed by welding, sewing or adhesive to prevent entry of rainwater or dust. The openings of both bags may be closed by a drawstring to form a carrying or lifting loop of the same material as the outer bag.

A(4-G2E2, 4-G3E1, 11-A5C, 11-C1A1, 12-P2, 12-S6B, 12-S6C1)

#### USE/ADVANTAGE

E.g. to carry 500-1500 kg, facilitates handling and provides enhanced protection against environmental effects. (2pp1358CMDwgNo2/8).

SR:No-Citns.



EP-523706-A

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This invention is related to an improved protection bag which provides protection against outer effects during handling, storing and transporting of the bags used for filling, storing and transporting granular or powdered bulk materials.

In general, the bags used for storing and handling of the bulk materials may hold quantities of 500 kg to 1500 kg. These bags consist of an inner bag made of usually polyethylene in which the bulk material is filled and an outer bag made of polypropylene woven material the top part of which is cut vertically and sewn to form a lifting handle. The inner bag is filled with the bulk material and the opening is closed and the bag is carried by the handle. These bags are designed to endure transporting for a very long time under various transportation conditions.

As a result of various weather conditions such as rain, snow and wind, the space between the inner and outer bags may be filled with rain water or dust. This is detrimental to the bags and the bulk material as well.

On the other hand, the outer bag may be soiled due to the exposition to environment and the notices placed onto the bags such as "flammable, poisonous, dangerous" may become illegible and this may cause undesired results.

In the prior art, containers used for handling and transportation of the bulk materials are inserted into another bag made of polyethylene or similar material and the opening is closed afterwards. In the upper part of the outer bag, a hook is placed onto the handling loop for lifting the bag. This hook pierces the outer bag and therefore rainwater, dust or any other undesired materials may enter into the space between the inner and the outer bags.

In order to avoid the above mentioned disadvantages of the bulk material bags, this invention aims to provide a new protection bag which prevents the interference of the various environment conditions and on the other hand which facilitates handling.

According to this invention there is provided a protection bag made of polyethylene, laminated polypropylene woven material or any other suitable material for the protection of the bags inserted inside thereof, used for handling, storing and transporting of granular or powdered bulk materials against various environment conditions wherein the opening of the protection bag is extended to one side and a slit is provided on the bag through which a lifting hook or any other handling means may be inserted.

The invention will be described in detail herebelow with reference to the drawings in which

Figure 1 shows the protection bag;

Figure 2 shows the protection bag into which the outer bag is inserted;

Figure 3 shows the opening of the outer bag;  
Figure 4 shows the folding of the opening of the outer bag;

Figure 5 shows the sewing of the opening of the outer bag;

Figure 6 shows the sewn outer bag and the protection bag;

Figure 7 shows the lifting loop that is prepared by the top part of the protection bag and the opening of the outer bag;

Figure 8 shows the final position of the outer bag and the protection bag.

The protection bag 1 is made of a plastic material such as laminated polypropylene or polyethylene etc. and may be of any geometrical design such as circular, rectangular, elliptical or cu-

bic. One part of the bag is left open. A single slit 2 is cut close to the opening part of the bag and parallel to the side edge of the protection bag. The slit 2 may be of any design, the edges 3 of the slit are sealed by welding, sewing or using adhesives in order to prevent the penetration of any undesired materials such as water or dust into it. After the sealing, the protection bag is ready for use.

The top part of the outer bag 4 is cut lengthwise 5 in order to insert the inner into the outer bag 4 and to provide the lifting and handling loop 8 as well. The outer bag 4 is inserted into the protection bag 1 through the wider edge of the slit 2 and one side of the cut 5 is pulled up from the other side of the slit 2.

The opening 4 of the outer bag and folding lines 6 are sewn together. Thus the protection bag 1 provides protection for the bag 4 inserted in itself. Thereafter, the opening of the protection bag 1 is pulled to one side 10 and the part of the protection bag close to the sewn part 7 of the outer bag 4 is fastened by a string made of polypropylene woven material, polyethylene material or a similar material. This provides the lifting and handling loop 8.

According to this invention, the bag 4 which is inserted into the protection bag 1 will be protected against the environment and the opening of the protection bag 10 will enable the bag which is inserted in it to be filled. After the inner bag is filled with bulk material, the opening 10 of the protection bag 1 is fastened by means of a string. The string may either be attached to the lifting and handling loop 8 or provided separately.

The protection bag 1 according to this invention to which a hook for lifting the bag is inserted into the handling loop without creating any problem and which provides protection against the environment during handling and storing of the bags may be manufactured in any other form or design by persons skilled in the art without departing from the spirit and scope of the claimed invention.

**Claims**

1. A protection bag made of polyethylene, laminated polypropylene woven material or any other suitable material for the protection of the bag inserted inside thereof, used for the handling, storing and transporting of bulk materials against various environment conditions wherein the opening of the protection bag is extended to one side and a slit is provided on the bag close to the opening part thereof through which a lifting hook or any other handling means may be inserted.  
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2. A protection bag as claimed in claim 1 wherein the said slit is cut after both sides of the bag is folded into one another,  
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3. A protection bag as claimed in claim 1 wherein the area around the said slit is sealed by welding, sewing or using adhesives in order to prevent the penetration of the unwanted elements such as rainwater or dust into the contents of the bag.  
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4. A protection bag as claimed in claim 1 wherein the top part of the outer bag is cut lengthwise in order to be inserted into the protection bag and in order to enable the inner bag into which the bulk material is placed to be inserted into it.  
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5. A protection bag as claimed in claim 1 wherein the said opening of the slit in the protection bag and the cut in the outer bag which is inserted into the protection bag is closed by fastening with a string attached to opening or provided separately in order to form a carrying or lifting loop.  
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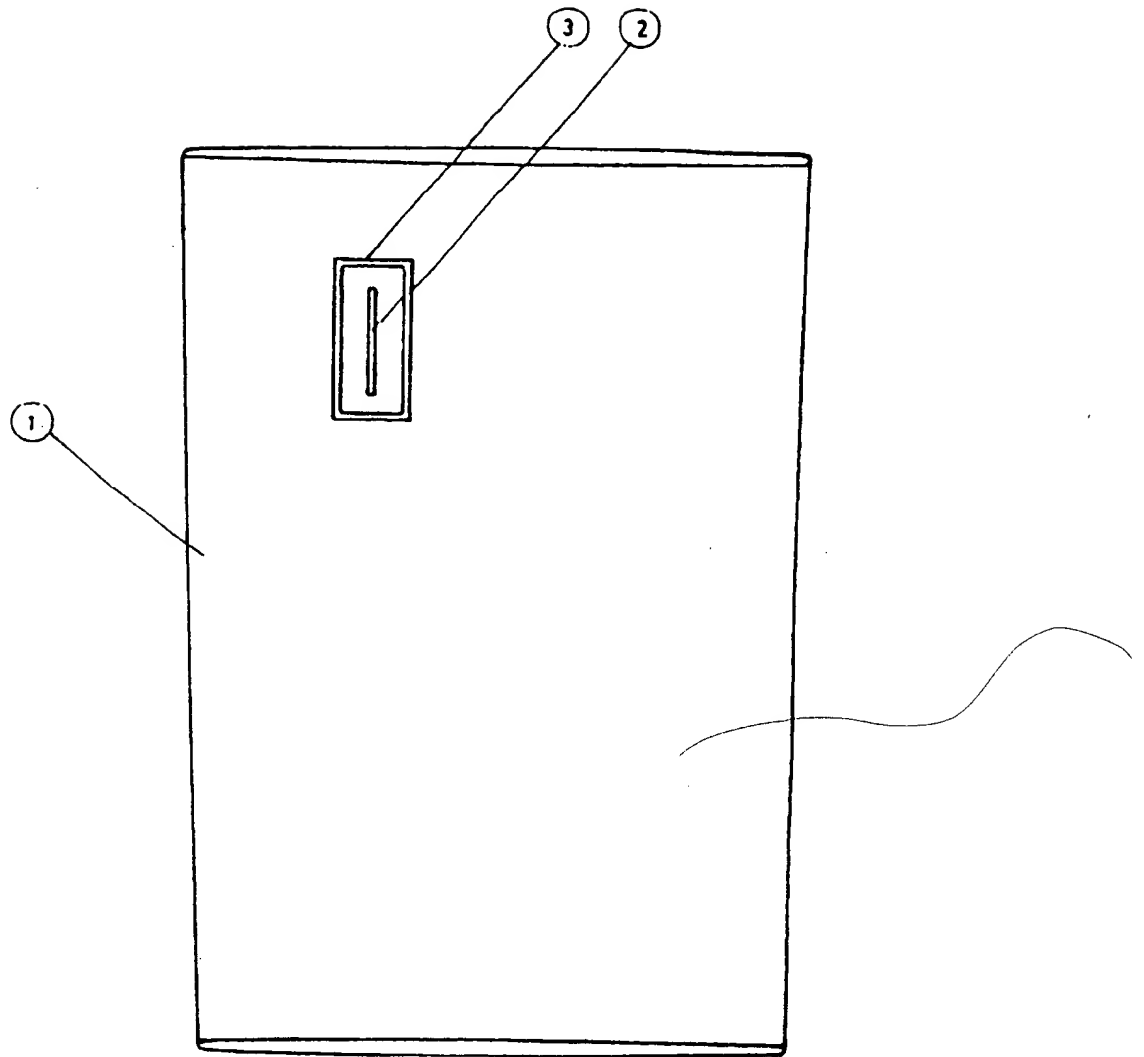
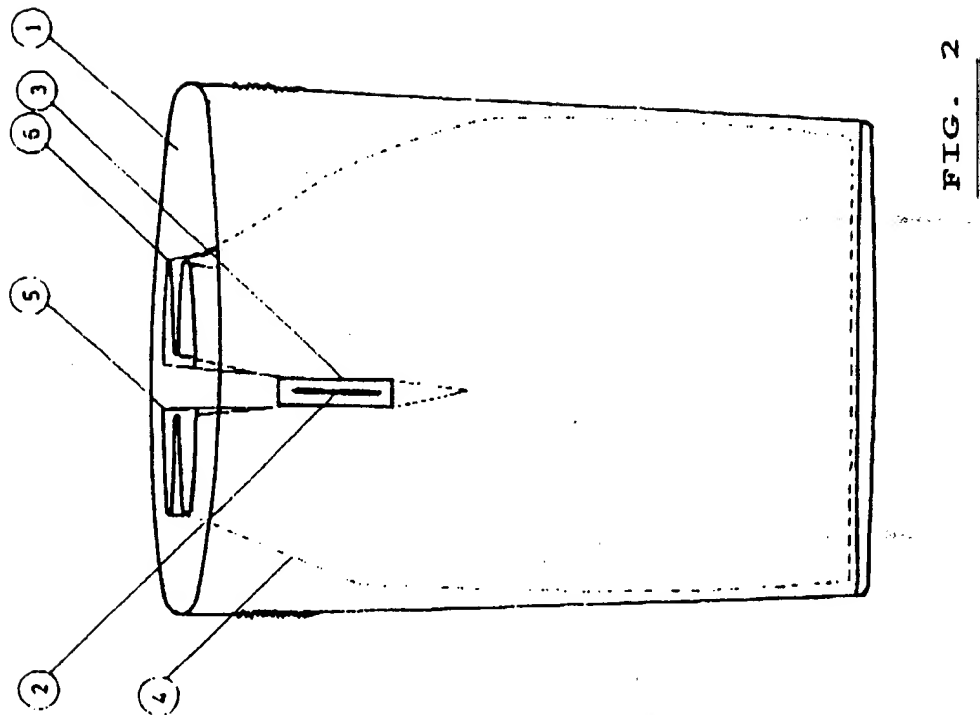
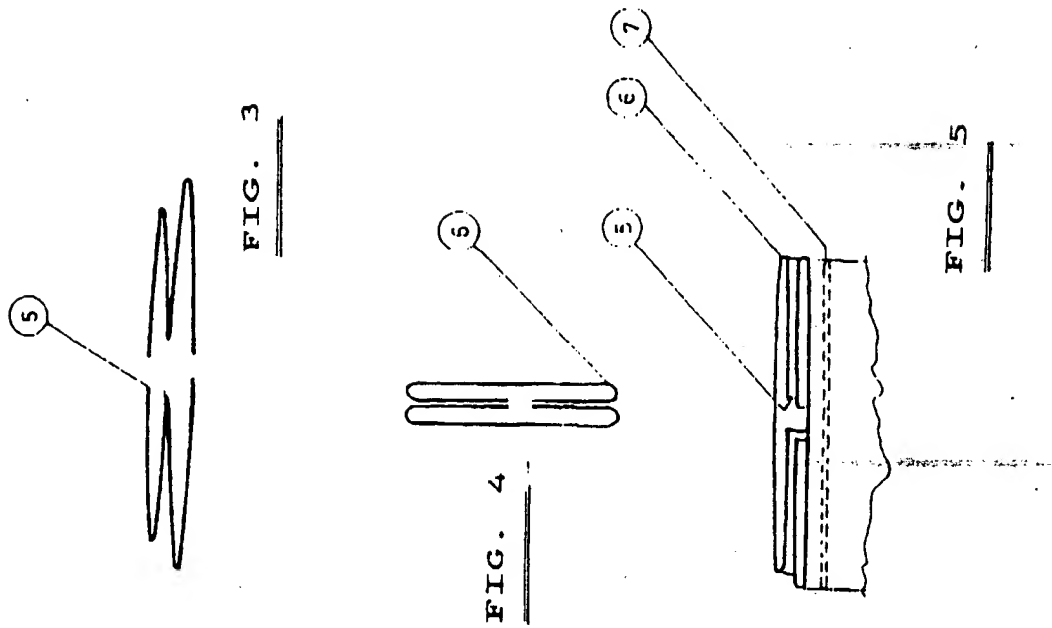


FIG. 1



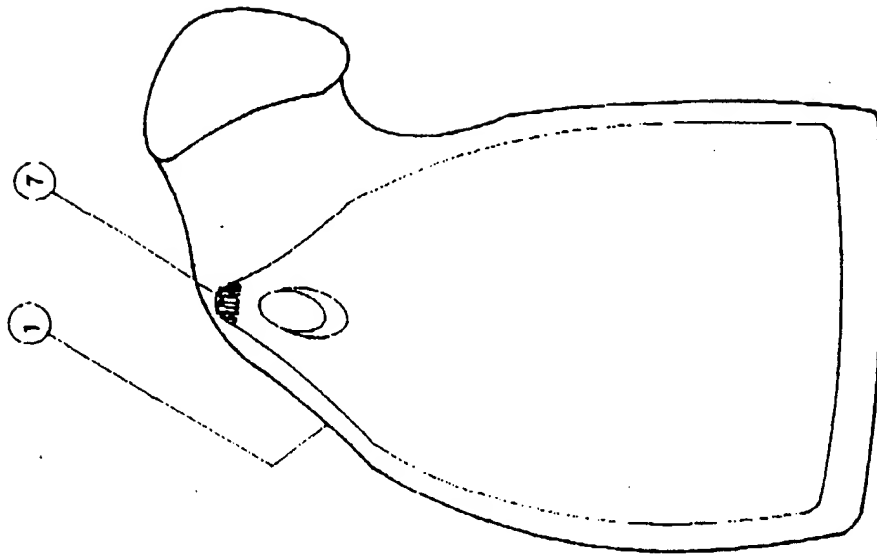


FIG. 7

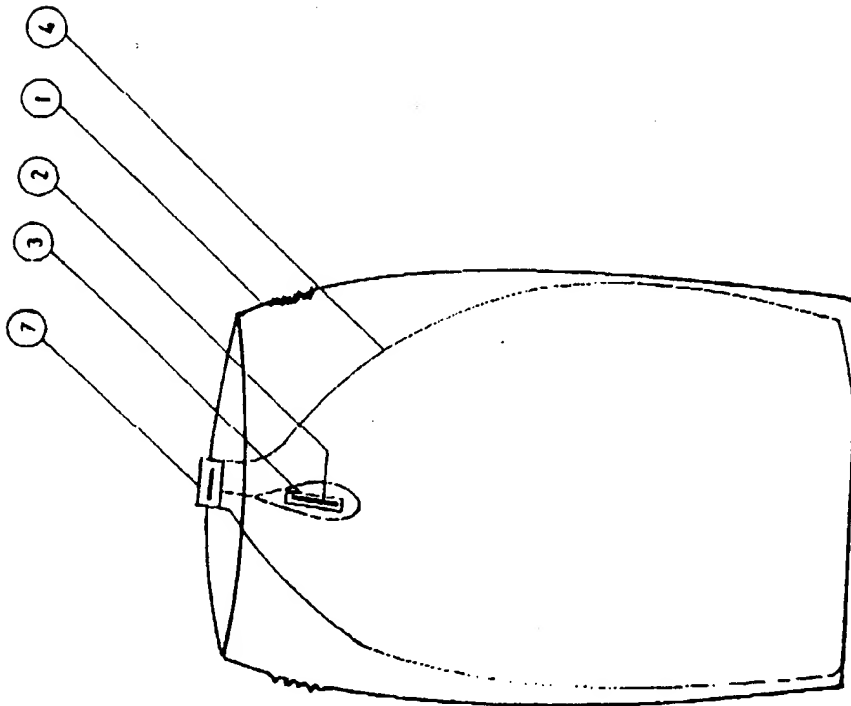


FIG. 6

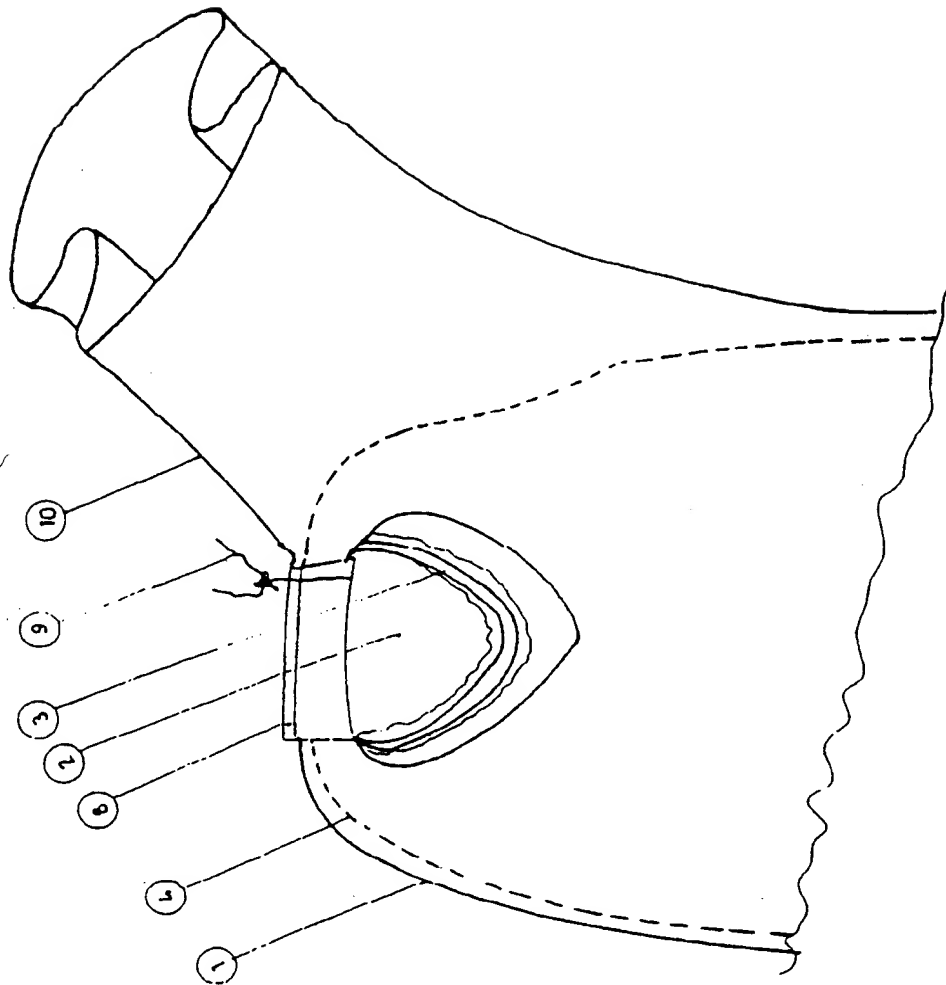


FIG. 8





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# **DECLARATION**

which under Rule 45 of the European Patent  
Convention shall be considered, for the purpose of  
subsequent proceedings, as the European search  
report

Application number

EP 92 11 2182

The Search Division considers that the present European patent application does not comply with the provisions of the European Patent Convention to such an extent that it is not possible to carry out a meaningful search into the state of the art on the basis of all claims.  
Reason:

The wording of the description does not permit a fully understanding of the claims. A more exhaustive description is requested concerning:

1. The way of making the lifting hook;
2. How the bag can be filled once it has been inserted in the outer bag;
3. Claims 4 and 5.

## **CLASSIFICATION OF THE APPLICATION (Int. Cl.)**

B 65 D 88/16

B 65 D

Place of search

THE HAGUE

Date of completion of the search

19-10-1992

Examiner

OSTIJN